

SEQUENCE LISTING

<110> Huston, James S.
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Laurent, Olivier
Marasco, Wayne A.
Scherman, Daniel

<120> BIOENGINEERED VEHICLES FOR TARGETED NUCLEIC ACID
DELIVERY

<130> 23611-A USA

<140> As yet unassigned
<141> 2001-06-25

<150> 60/213,653
<151> 2000-06-23

<160> 45

<170> PatentIn Ver. 2.0

<210> 1
<211> 18
<212> PRT
<213> Homo sapiens

<400> 1
Ser Arg Ser Arg Tyr Tyr Arg Gln Arg Gln Arg Ser Arg Arg Arg Arg
1 5 10 15

Arg Arg

<210> 2
<211> 26
<212> PRT
<213> Homo sapiens

<400> 2
Ala Lys Lys Ala Lys Ser Pro Lys Lys Ala Lys Ala Lys Pro Lys
1 5 10 15

Lys Ala Pro Lys Ser Pro Ala Lys Ala Lys
20 25

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<210> 3
<211> 10
<212> PRT
<213> Adenovirus
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<400> 3
Ser Gly Pro Ser Asn Thr Pro Pro Glu Ile
  1                      5              10
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```
<210> 4
<211> 9
<212> PRT
<213> Human papillomavirus
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<400> 4
Arg Ala His Tyr Asn Ile Val Thr Phe
      1             5
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<210> 5
<211> 10
<212> PRT
<213> Human papillomavirus
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<400> 5
Thr Asp Leu Tyr Cys Tyr Glu Gln Leu Asn
  1             5             10
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```
<210> 6
<211> 10
<212> PRT
<213> Human papillomavirus
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<400> 6
Ala Glu Pro Asp Arg Ala His Tyr Asn Ile
  1             5             10
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<210> 7
<211> 19
<212> PRT
<213> Human papillomavirus
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<400> 7

Arg Thr Leu

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<400> 8
Gly Thr Leu Gly Ile Val Cys Pro Ile Cys
  1             5             10
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```

<210> 9
<211> 10
<212> PRT
<213> Epstein-Barr Virus

<400> 9
Asp Thr Pro Leu Ile Pro Leu Thr Ile Phe
  1                      5                      10

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```
<210> 10
<211> 15
<212> PRT
<213> Epstein-Barr Virus
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<400> 10
Pro Arg Ser Pro Thr Val Phe Tyr Asn Ile Pro Pro Met Pro Leu
1 5 10 15

```
<210> 11
<211> 9
<212> PRT
<213> Epstein-Barr Virus
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<400> 11
Phe Leu Arg Gly Arg Ala Tyr Gly Leu
1 5

<210> 12

<211> 15
<212> PRT
<213> Epstein-Barr Virus

<400> 12
Arg Gly Ile Lys Glu His Val Ile Gln Asn Ala Phe Arg Lys Ala
1 5 10 15

<210> 13
<211> 10
<212> PRT
<213> Epstein-Barr Virus

<400> 13
Glu Glu Asn Leu Leu Asp Phe Val Arg Phe
1 5 10

<210> 14
<211> 9
<212> PRT
<213> Epstein-Barr Virus

<400> 14
Ile Val Thr Asp Phe Ser Val Ile Lys
1 5

<210> 15
<211> 9
<212> PRT
<213> Homo sapiens

<400> 15
Leu Leu Gly Arg Asn Ser Pro Glu Val
1 5

<210> 16
<211> 13
<212> PRT
<213> Murine sarcoma virus

<400> 16
Lys Leu Val Val Val Gly Ala Arg Gly Val Gly Lys Ser
1 5 10

000001-000001

<210> 17
 <211> 12
 <212> PRT
 <213> Homo sapiens

<400> 17
 Lys Leu Val Val Val Gly Ala Val Gly Val Gly Lys
 1 5 10

<210> 18
 <211> 16
 <212> PRT
 <213> Homo sapiens

<400> 18
 Asp Ile Leu Asp Thr Ala Gly Leu Glu Glu Tyr Ser Ala Met Arg Asp
 1 5 10 15

<210> 19
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 19
 Gly Leu Glu Glu Tyr Ser Ala Met
 1 5

<210> 20
 <211> 10
 <212> PRT
 <213> Homo sapiens

<400> 20
 Glu Leu Val Ser Glu Phe Ser Arg Met Ala
 1 5 10

<210> 21
 <211> 15
 <212> PRT
 <213> Homo sapiens

<400> 21
 His Leu Asp Met Leu Arg His Leu Tyr Gln Gly Cys Gln Val Val

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1 5 10 15

<210> 22

<211> 15

<212> PRT

<213> Homo sapiens

<400> 22

Ser Arg Leu Leu Gly Ile Cys Leu Thr Ser Thr Val Gln Leu Val

1 5 10 15

<210> 23

<211> 9

<212> PRT

<213> Homo sapiens

<400> 23

Glu Ala Asp Pro Thr Gly His Ser Tyr

1 5

<210> 24

<211> 10

<212> PRT

<213> Homo sapiens

<400> 24

Leu Leu Asp Gly Thr Ala Thr Leu Arg Leu

1 5 10

<210> 25

<211> 9

<212> PRT

<213> Homo sapiens

<400> 25

Tyr Leu Glu Pro Gly Pro Val Thr Ala

1 5

<210> 26

<211> 9

<212> PRT

<213> Homo sapiens

03037270000

<400> 26

Met Leu Leu Ala Val Leu Tyr Cys Leu

1 5

<210> 27

<211> 9

<212> PRT

<213> Homo sapiens

<400> 27

Tyr Met Asn Gly Thr Met Ser Gln Val

1 5

<210> 28

<211> 9

<212> PRT

<213> Homo sapiens

<400> 28

Tyr Met Asn Gly Thr Met Ser Glu Val

1 5

<210> 29

<211> 21

<212> PRT

<213> Homo sapiens

<400> 29

Ala Ala Gly Ile Gly Ile Leu Thr Val Ile Leu Gly Val Leu Leu Leu

1 5 10 15

Ile Gly Cys Trp Tyr

20

<210> 30

<211> 9

<212> PRT

<213> Simian virus 40

<400> 30

Thr Pro Pro Lys Lys Lys Arg Lys Val

1 5

<210> 31
<211> 14
<212> PRT
<213> Homo sapiens

<400> 31
Lys Lys Ser Ala Lys Lys Thr Pro Lys Lys Ala Lys Lys Pro
1 5 10

<210> 32
<211> 26
<212> PRT
<213> Homo sapiens

<400> 32
Ala Lys Lys Ala Lys Ser Pro Lys Lys Ala Lys Ala Ala Lys Pro Lys
1 5 10 15

Lys Ala Pro Lys Ser Pro Ala Lys Ala Lys
20 25

<210> 33
<211> 18
<212> PRT
<213> Homo sapiens

<400> 33
Ser Arg Ser Arg Tyr Tyr Arg Gln Arg Gln Arg Ser Arg Arg Arg Arg
1 5 10 15

Arg Arg

<210> 34
<211> 255
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Human/murine
chimeric single chain binding polypeptide (C6.5
sFv)

<400> 34
Gln Val Gln Leu Leu Gln Ser Gly Ala Glu Leu Lys Lys Pro Gly Glu

1				5						10					15
Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Ser	Phe	Thr	Ser	Tyr
			20					25					30		
Trp	Ile	Ala	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	Glu	Tyr	Met
		35					40					45			
Gly	Leu	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Lys	Tyr	Ser	Pro	Ser	Phe
	50					55						60			
Gln	Gly	Gln	Val	Thr	Ile	Ser	Val	Asp	Lys	Ser	Val	Ser	Thr	Ala	Tyr
	65				70					75					80
Leu	Gln	Trp	Ser	Ser	Leu	Lys	Pro	Ser	Asp	Ser	Ala	Val	Tyr	Phe	Cys
				85					90					95	
Ala	Arg	His	Asp	Val	Gly	Tyr	Cys	Ser	Ser	Ser	Asn	Cys	Ala	Lys	Trp
			100					105					110		
Pro	Glu	Tyr	Phe	Gln	His	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser
		115					120					125			
Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
	130					135					140				
Gln	Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Val	Ser	Ala	Ala	Pro	Gly	Gln
	145				150					155					160
Lys	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Asn	Asn
				165				170					175		
Tyr	Val	Ser	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu
			180					185					190		
Ile	Tyr	Gly	His	Thr	Asn	Arg	Pro	Ala	Gly	Val	Pro	Asp	Arg	Phe	Ser
	195					200						205			
Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Phe	Arg
	210					215					220				
Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu
	225				230					235					240
Ser	Gly	Trp	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu	Gly	
				245				250						255	

<210> 35
<211> 765
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide (C6.5
sFv)

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<400> 35
cagggtgcagc tgttgcagtc tggggcagag ttgaaaaaac ccggggagtc tctgaagatc 60
tcctgtaagg gttctggata cagctttacc agctactgga tcgcctgggt gcgccagatg 120
cccggaagaa gcttggagta catggggctc atctatcctg gtgactctga caccaaatac 180
agcccgctct tccaaggcca ggtcaccatc tcagtcgaca agtccgtcag cactgcctac 240
ttgcaatgga gcagtcgtga gccctcggac agcgcgtgtg atttttgtgc gagacatgac 300
gtgggatatt gcagtagttc caactgcgca aagtggcctg aatacttcca gcattggggc 360
cagggcaccc tggtcaccgt ctctcaggtt ggaggcggtt caggcgaggg tggctctggc 420
gggtggcggt cgcagtcctg gttgacgcag ccgccctcag tgtctgcggc cccaggacag 480
aaggtcacca tctcctgctc tgggaagcag tccaacattg ggaataatta tgtatcctg 540
taccagcagc tcccaggaac agcccccaaa ctctctatct atggtcacac caatcggcc 600
gcaggggtcc ctgaccgatt ctctggctcc aagtcgtgga cctcagcctc cctggccatc 660
agtgggttcc ggtccgagga tgaggctgat tattactgtg cagcatggga tgacagcctg 720
agtgtgtggg tggtcggcgg agggaccaag ctgaccgtcc taggt 765
```

<210> 36
<211> 269
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide (C6ML3-9
sFv')

```
<400> 36
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Glu
  1                      5                      10                     15

Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe Thr Ser Tyr
      20                      25                      30

Trp Ile Ala Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Tyr Met
      35                      40                      45

Gly Leu Ile Tyr Pro Gly Asp Ser Asp Thr Lys Tyr Ser Pro Ser Phe
      50                      55                      60
```

Gln Gln Val Thr Ile Ser Val Asp Lys Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Trp Ser Ser Leu Lys Pro Ser Asp Ser Ala Val Tyr Phe Cys
85 90 95

Ala Arg His Asp Val Gly Tyr Cys Ser Ser Ser Asn Cys Ala Lys Trp
100 105 110

Pro Glu Tyr Phe Gln His Trp Gly Gln Gly Thr Leu Val Thr Val Ser
115 120 125

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
130 135 140

Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Ala Ala Pro Gly Gln
145 150 155 160

Lys Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Asn Asn
165 170 175

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
180 185 190

Ile Tyr Asp His Thr Asn Arg Pro Ala Gly Val Pro Asp Arg Phe Ser
195 200 205

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Phe Arg
210 215 220

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Tyr Thr Leu
225 230 235 240

Ser Gly Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Ala
245 250 255

Ala Ala His His His His His His Gly Gly Gly Gly Cys
260 265

<210> 37

<211> 807

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide (C6ML3-9

sFv')

```
<400> 37
caggtgcagc tgggtgcagtc tggggcagag gtgaaaaagc ccgggggagtc tctgaagatc 60
tctctgtaagg gttctggata cagctttacc agctactgga tcgcttgggt gcgccagatg 120
ccccggaaaag gcctggagta catggggctc atctatcctg gtgactctga caccaaatac 180
agcccgctcct tccaaggcca ggtcaccatc tcagtcgaca agtccgtcag cactgcctac 240
ttgcaatgga gcagctctgaa gccttcggac agcgccgtgt atttttgtgc gagacatgac 300
gtgggatatt gcagtagttc caactgcgca aagtggcctg aatacttcca gcattggggc 360
cagggcaccc tggtcaccgt ctctcaggt ggaggcgggt caggcggagg tggctctggc 420
ggtagccgat cgagctctgt gttgacgcag ccgccctcag tgtctgcggc cccaggacag 480
aagggtcacca tctctgtctc tggaaagcagc tccaacattg ggaataatta tgatccctgg 540
taccagcagc tcccaggaac agcccccaaa ctctcatct atgatcacac caatcggccc 600
gcagggggtcc ctgaccgatt ctctggctcc aagctctggca cctcagcctc cctggccatc 660
agtgggttcc ggtccgagga tgaggctgat tattactgtg cctcctggga ctacacccctc 720
tcgggctggg tgttcggcgg aggaaccaag ctgaccgtcc taggtgcggc cgcacaccat 780
catcaccatc acggtggtgg cggtctgc 807
```

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<210> 38
<211> 282
<212> PRT
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide
(C6ML-3-sFv'-L1-KDEL)
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```
<400> 38
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Glu
1 5 10 15

Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Ile Ala Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Tyr Met
35 40 45

Gly Leu Ile Tyr Pro Gly Asp Ser Asp Thr Lys Tyr Ser Pro Ser Phe
50 55 60

Gln Gly Gln Val Thr Ile Ser Val Asp Lys Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Trp Ser Ser Leu Lys Pro Ser Asp Ser Ala Val Tyr Phe Cys
85 90 95

Ala Arg His Asp Val Gly Tyr Cys Ser Ser Ser Asn Cys Ala Lys Trp
```

100	105	110
Pro Glu Tyr Phe Gln His Trp Gly Gln Gly Thr Leu Val Thr Val Ser		
115	120	125
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser		
130	135	140
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Ala Ala Pro Gly Gln		
145	150	155
Lys Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Asn Asn		
165	170	175
Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu		
180	185	190
Ile Tyr Asp His Thr Asn Arg Pro Ala Gly Val Pro Asp Arg Phe Ser		
195	200	205
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Phe Arg		
210	215	220
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Tyr Thr Leu		
225	230	235
Ser Gly Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Ala		
245	250	255
Ala Ala His His His His His His Gly Gly Gly Gly Cys Leu Glu Ser		
260	265	270
Ser Ser Ser Gly Ser Glu Lys Asp Glu Leu		
275	280	

<210> 39

<211> 846

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide
(C6ML-3-9sFv'-L1-KDEL)

<400> 39

caggtgcagc tgggtgcagtc tggggcagag gtgaaaaagc ccggggagtc tctgaagatc 60

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tctctgaagg gttctggata cagctttacc agctactgga tcgactgggt gcgccagatg 120
ccccgggaaag gcctggagta catggggctc atctatcctg gtgactctga caccaaaatac 180
agcccgctect tccaaggcca ggtcaccatc tcagtcgaca agtccgtcag cactgcctac 240
ttgcaatgga gcagcttgaa gccctcgga acgcccgtgt atttttgtgc gagacatgac 300
gtgggatatt gcagtagttc caactgcgca aagtggcctg aataacttcca gcattggggc 360
cagggcaccc ttgtcaccgt ctctcagggt ggaggcggtt caggcgaggg tggctctggc 420
ggtaggggat cgcagctctgt gttgacgcag ccgcccctag tgctcgggc cccaggacag 480
aaggtcacca tctcctgctc tgggaagcag tccaacattg ggaataatta tgtatcctgg 540
taccagcagc tcccaggaaac agcccccaaa ctctcatct atgatcacac caatcgccc 600
gcagggttcc ctgaccgatt ctctggctcc aagtctggca cctcagcctc cctggccatc 660
agtgggttcc ggtccgagga tgaggctgat tattactgtg cctcctggga ctacaccctc 720
tcgggctggg tgttcggcgg aggaaccaag ctgaccgtcc taggtcgggc cgcacacat 780
catcaccatc acgggtggtg cggctgcctc gagtctctca gctctggatc cgaataagat 840
gaactg

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<210> 40

<211> 287

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human/murine
chimeric single chain binding polypeptide
(C6ML3-9sFv'-L2-KDEL)

<400> 40

```

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Glu
  1                      5                      10                      15

```

```

Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe Thr Ser Tyr
  20                      25                      30

```

```

Trp Ile Ala Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Tyr Met
  35                      40                      45

```

```

Gly Leu Ile Tyr Pro Gly Asp Ser Asp Thr Lys Tyr Ser Pro Ser Phe
  50                      55                      60

```

```

Gln Gly Gln Val Thr Ile Ser Val Asp Lys Ser Val Ser Thr Ala Tyr
  65                      70                      75                      80

```

```

Leu Gln Trp Ser Ser Leu Lys Pro Ser Asp Ser Ala Val Tyr Phe Cys
  85                      90                      95

```

```

Ala Arg His Asp Val Gly Tyr Cys Ser Ser Ser Asn Cys Ala Lys Trp
  100                      105                      110

```

```

Pro Glu Tyr Phe Gln His Trp Gly Gln Gly Thr Leu Val Thr Val Ser

```

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115		120		125
Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser				
130		135		140
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Ala Ala Pro Gly Gln				
145	150		155	160
Lys Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Asn Asn				
	165		170	175
Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu				
	180		185	190
Ile Tyr Asp His Thr Asn Arg Pro Ala Gly Val Pro Asp Arg Phe Ser				
	195	200		205
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Phe Arg				
	210	215		220
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Tyr Thr Leu				
225	230		235	240
Ser Gly Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Ala				
	245		250	255
Ala Ala His His His His His His Gly Gly Gly Gly Cys Leu Glu Ser				
	260		265	270
Ser Ser Ser Gly Ser Ser Ser Ser Gly Ser Glu Lys Asp Glu Leu				
	275	280		285

<210> 41

<211> 861

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide
(C6ML3-9sFv'-L2-KDEL)

<400> 41

caggtgcagc tgggtgcagtc tggggcagag gtgaaaaagc ccggggagtc tctgaagatc 60
tctgtaagg gttctggata cagctttacc agctactgga tcgcctgggt gcgccagatg 120
ccgggaaag gcctggagta catggggctc atctatcctg gtgactctga caccaaatac 180
agcccgctct tccaaggcca ggtcaccatc tcagtcgaca agtcgcgtcag cactgcctac 240

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```

ttgcaatgga gcagctctgaa gccctcggac agcgcctgtg atttttgtgc gagacatgac 300
gtgggatatt gcagtagttc caactgcgca aagtggcctg aatacttcca gcattggggc 360
cagggcacc cgggtacacgt ctctcaggt ggaggcggtt caggcggagg tgggtctggc 420
gggtggcgat cgcagctctgt gttgacgcag cgcacctcag tgtctgcggc ccaggacag 480
aaggtcacca tctcctgctc tgggaagcag tccaacattg ggaataatta tgtatcctgg 540
taccagcagc tcccaggaac agcccccaaa ctctctatct atgatcacac caatcgggcc 600
gcaggggtcc ctgaccgatt ctctggctcc aagtctggca cctcagcctc cctggccatc 660
agtgggttcc ggtccagga tgaggctgat tattactgtg cctcctggga ctacaccctc 720
tcgggtggg tggtcggcg aggaaccaag ctgaccgtcc taggtgcggc cgcacaccat 780
catcaccatc acgggtgggtg cggctgcctc gagtctagca gtcctgggtc ctctagctct 840
ggtatcgaaa aagatgaact g                                     861

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<210> 42

<211> 296

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide
(C6ML3-9sFv'-L2-H14)

<400> 42

```

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Glu
  1                      5                      10                     15

```

```

Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe Thr Ser Tyr
                20                      25                     30

```

```

Trp Ile Ala Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Tyr Met
  35                      40                     45

```

```

Gly Leu Ile Tyr Pro Gly Asp Ser Asp Thr Lys Tyr Ser Pro Ser Phe
  50                      55                     60

```

```

Gln Gly Gln Val Thr Ile Ser Val Asp Lys Ser Val Ser Thr Ala Tyr
  65                      70                     75                     80

```

```

Leu Gln Trp Ser Ser Leu Lys Pro Ser Asp Ser Ala Val Tyr Phe Cys
                85                      90                     95

```

```

Ala Arg His Asp Val Gly Tyr Cys Ser Ser Ser Asn Cys Ala Lys Trp
                100                     105                    110

```

```

Pro Glu Tyr Phe Gln His Trp Gly Gln Gly Thr Leu Val Thr Val Ser
  115                      120                     125

```

```

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser

```

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130	135	140
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Ala Ala Pro Gly Gln		
145	150	155 160
Lys Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Asn Asn		
165	170	175
Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu		
180	185	190
Ile Tyr Asp His Thr Asn Arg Pro Ala Gly Val Pro Asp Arg Phe Ser		
195	200	205
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Phe Arg		
210	215	220
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Tyr Thr Leu		
225	230	235 240
Ser Gly Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Ala		
245	250	255
Ala Ala His His His His His His Gly Gly Gly Gly Cys Leu Glu Ser		
260	265	270
Ser Ser Ser Gly Ser Ser Ser Ser Gly Ser Lys Lys Ser Ala Lys Lys		
275	280	285
Thr Pro Lys Lys Ala Lys Lys Pro		
290	295	

<210> 43

<211> 888

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide
(C6ML3-9sFv'-L2-H14)

<400> 43

caggtgcagc tgggtgcagtc tggggcagag gtgaaaaagc ccggggagtc tctgaagatc 60
tctctgaagg gttctggata cagctttacc agctactgga tcgcctgggt gcgccagatg 120
cccggaagg gcctggagta catggggctc atctatcctg gtgactctga caccaaatac 180
agcccgctct tccaaggcca ggtaaccatc tcagtcgaca agtccgtcag cactgcctac 240

```
<210> 44
<211> 291
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide
(C6ML3-9sFv'-L2-nls)

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1 5 10 15

Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe Thr Ser Tyr
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Gly Leu Ile Tyr Pro Gly Asp Ser Asp Thr Lys Tyr Ser Pro Ser Phe
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Gln Gly Gln Val Thr Ile Ser Val Asp Lys Ser Val Ser Thr Ala Tyr
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Leu Gln Trp Ser Ser Leu Lys Pro Ser Asp Ser Ala Val Tyr Phe Cys
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Ala Arg His Asp Val Gly Tyr Cys Ser Ser Ser Asn Cys Ala Lys Trp
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Pro Glu Tyr Phe Gln His Trp Gly Gln Gly Thr Leu Val Thr Val Ser
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Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly Ser

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135

140

Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Ala Ala Pro Gly Gln
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Lys Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Asn Asn
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Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
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Ile Tyr Asp His Thr Asn Arg Pro Ala Gly Val Pro Asp Arg Phe Ser
195 200 205

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Phe Arg
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Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Tyr Thr Leu
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Ser Gly Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Ala
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Ala Ala His His His His His His Gly Gly Gly Gly Cys Leu Glu Ser
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Ser Ser Ser Gly Ser Ser Ser Ser Gly Ser Thr Pro Pro Lys Lys Lys
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Arg Lys Val
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